OVERVIEW

The Installation General Plan outlines the underlying order of the installation based on a common unifying element. This "vision" for the future development is then carried out through all aspects of base planning, site, architecture, and interior design. In support of the General Plan are Component Plans and Planning Elements such as the **Installation Architectural Compatibility Plan**.

This Air Force Architectural Compatibility Guide (ACG) is tool kit for Civil Engineer personnel and their contractors to assist the planning and creation of an Installation Architectural Compatibility Plan (ACP). It has been compiled through the efforts of architects and designers Air Force wide that have identified the primary issues related to achieving design excellence through setting high standards for architectural compatibility.

The Air Force ACG is divided into three distinct parts, the Primer, the Process and the Tools.

PRIMER

- Basic Architectural Compatibility **design principles** from small scale to large scale
- **Related Design Disciplines** that interface with achieving architectural compatibility
- The **Air Force context** in implementing architectural compatibility standards

PROCESS

This section maps the processes involved in developing an Installation Architectural Compatibility Plan. It offers sources of information and alternative methods for developing the plan at the installation level.

TOOLS

The Tools are aids prepared to assist in creating the document and references for further information.

Document Information:
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PRIMER

DEFINITION

What is Architectural Compatibility?

To understand architectural compatibility and how it affects the Air Force, an understanding of the term is necessary. Compatible is generally defined as "capable of existing together in harmony, or to be consistent." Architectural compatibility results from designing and building facilities in harmony with their natural and man-made surroundings and environment. Architectural compatibility would therefore be concerned not only with the physical appearance of buildings, but interfacing with planning, landscape development and interior design goals and objectives.

Architectural compatibility considerations are those planning and design factors which influence and enhance an installation's physical appearance. The decision as to what should be considered is determined by the situation and particular requirements of the installation, and the overall environment within which the installation exists.

Military installations should provide efficient and pleasant physical environments conducive to attracting and retaining skilled and motivated personnel. The design, location, and maintenance of individual elements such as buildings, roads, parking lots, signs, and landscaping create the quality of the environment. Each of the elements should be functional, attractive, and harmonious with each other. This helps to create an environment that enhances the capability of the installations to support their mission(s), and fosters pride in, and a commitment to, military service.

Developing an architectural compatibility program can be an invaluable tool in achieving the following:

- A record of established goals and objectives leading to more consistency for leadership decision-making.
- Improvement in the environment through new construction.
- Environmental design continuity.
- A baseline for review of future changes in goals and objectives.
- A reasonable control of design expression.
- Clear and consistent communication between the Air Force as a client and designers, in-house or contracted professionals.
- Improved programming and budgeting by limiting the range of options and promoting consistency.
- Impart a sense of pride, organization, vitality, and good management. The installation should reflect a leadership that cares about its people.

The following sections define and discuss each of the three levels of considerations for developing architectural compatibility guidelines: visual elements, visual patterns and visual districts. The visual elements working together will form larger scale visual patterns, which in turn establish the theme for a visual district.

VISUAL ELEMENTS

The following visual elements establish the physical appearance and character of an individual building or group of buildings. They include: Theme, Scale, Form, and Articulation.

Theme

Theme is a combination of materials, texture, colors, form, type of construction, details, and building systems. Repetition of design elements in similar ways on separate buildings helps establish an architectural theme. A theme may be based on historical, cultural, technological, and other standards. Examples include Spanish, Western, modern, colonial and high-tech.

- A theme should not be arbitrarily chosen. A Spanish theme would not be appropriate in the Northeast.
- Themes may reflect energy consciousness through passive and active solar design; they may reflect a historical period such as exists in many old brick buildings; they may simply reflect an appreciation and respect for the natural beauty and resources native to a region.
- Themes should reflect the installation's mission, heritage and regional characteristics, and emphasize human scale.
- Regional and local resources should be studied in evaluating existing themes. Materials that are native to the region should be used. Colors and textures should also be reflective of the region. Details and type of construction should be characteristics of the area.
- The theme must be considered when adding to, altering, maintaining and repairing facilities.

Scale
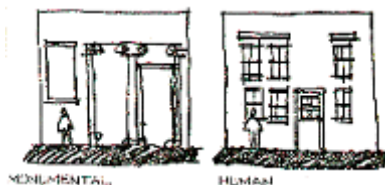
Scale is a comparison of the dimensions of various components of a building to other related elements and to human dimensions. Scale also refers to the size relationships between adjacent buildings, and between buildings and adjacent open spaces.

Proposed buildings should be scaled to be compatible with overall mass and individual parts of buildings in the visual district.
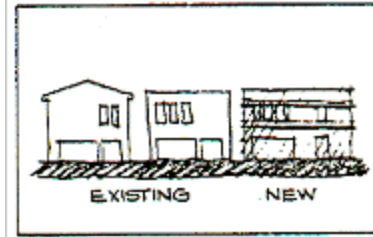
- New construction on the installation should avoid designs using one rectangular mass.
- Avoid vast blank building walls facing streets.
- Except for major buildings, the scale for all buildings should be human, not monumental. This human scale is achieved by using small (normal sized) windows, doors and details. It is also conveyed by using normal floor-to-floor heights and floor-to-eave heights.
- For large buildings, human scale is improved to the extent that the mass is broken into smaller elements.

Form

Mass and shape define form. Mass refers to the volume defined by a structure relative to its surroundings and to its apparent solidity and weight. Shape is the complexity of the surface planes.

- Use a roof form and shape similar to adjacent buildings.
- Stress horizontal proportions in the design of the facade. Design windows, entrances and detailing to complement the horizontal proportions of the facade.
- Emphasize the parts of all buildings to clearly show a division of roof, walls and base. Utilize color, materials and/or details to express this division.
- Currently fashionable or "trendy" forms should be avoided.
- Major administrative buildings may have a more formal massing than any other building type, signifying their relative importance. This can be achieved through a more balanced, symmetrical design with less articulation.
- Building entrances allow access into a building. The scale and detailing of an entrance gives the pedestrian a visual clue to identify the function and importance of a building. Building entrances should be readily distinguished as the "entrance" to all buildings.
- Locate primary building entrances to relate to adjacent building entrances and major pedestrian circulation routes.
- Locate main entrances away from service areas.

- Entrances should be an integral part of building design by means of:
  Building recess
  Building projection
  Ornamental or decorative detailing
  Glazed areas
- Location of building entrances should be a careful balance between the desired site arrangement and the internal layout of the building.

Articulation

Articulation is the discreet visual definition of architectural systems from bottom to top. This promotes a discriminating use of materials, colors, fenestration and details.

Materials

Cohesive and consistent architectural character can be achieved in new construction through the use of exterior building materials that are similar to or compatible with adjacent buildings.A cluttered, cosmetic application of a number of different materials on a facade should be avoided.

- Materials should be used consistently on all facades of a building.
- Materials should be selected based upon their appropriateness to the building type, durability, climatic conditions and the prevailing architectural design and character of the installation.
- Materials distinctive to an established architectural character worthy of merit should be adhered to consistently throughout an installation. Deviations from established materials should not be allowed without good reason. However, an historic style should not be imitated where it is inconsistent with functional requirements and construction economies. The use of similar materials, complementary colors and a compatibly scaled building can successfully relate new buildings to an historical style or setting.
- For freestanding walls, use materials and colors similar to those on the main building.

Color

Color is closely linked to the appropriate selection of exterior building materials and is a critical design element in relating adjacent buildings and creating a compatible visual environment within an installation.

- In general, colors should be integral rather than applied to exterior building

materials. Avoid surfaces that require costly periodic repainting.

- Colors should be selected on the basis of the desired appearance and attractiveness of the building, its compatibility with adjacent building colors and the prevailing color scheme of the architectural and natural landscape character of the installation.
- Colors should be carefully selected for their ability to modify climatic conditions. Generally, light-colored building exteriors tend to reflect solar radiation and promote heat loss, but increase glare; dark-colored exteriors tend to absorb solar radiation, promote heat gain and reduce glare.
- Exterior building colors should be limited in number and controlled by an established color palette for use throughout the installation. This palette should specify a limited number of coordinated and complementary colors that are subdued and harmonious.
- Strong, loud colors should generally be avoided and used only for special identification purposes; where they are employed they should not dominate or overpower the visual character of the setting.
- Colors can be used to evoke an historical or regional architectural style that should be employed only where appropriate.
- Exterior appurtenances should match the color they are set against, i.e. roof penetrations shall match the roof color, and items attached to or adjacent to walls should match the wall color.
- Posts, gas meters, and exposed piping should be of a uniform tone-down color.
- Downspouts should be visually integrated into the facility architecture. They should be specified to match or blend with the color of the adjacent wall material.
- Avoid the use of "supergraphics" painted on building facades.

Fenestration

The fenestration of a building is the openings within the building envelope.

- Design openings to form a unified composition in proportion to the building elevation.
- Proportion and detail a building's exterior fenestration to the scale of adjacent buildings.
- Window placement should relate to internal areas. Mullion spacing should provide a good module for internal layout of office space, entrances, common use areas, etc.
- Larger building facades with oversized fenestration elements tend to create a more monumental scale while smaller buildings with more finely detailed fenestration tend to create a more human scale.

Detail

Cohesive and consistent architectural character can be achieved in new construction through the use of details that are similar to or compatible with adjacent buildings. Visual

clutter can be avoided by thoughtfully detailing or eliminating exterior appurtenances.

- Locate above-grade utility connections, vents and other projections through the building away from high-visibility areas. Do not locate any utility projections, such as air conditioning units, on the street side of the building.
- Avoid exterior surface-mounted conduits, electrical boxes, etc.
- Roofs should be designed with the least number of penetrations possible. In this interest, rooftop mechanical systems should be avoided whenever possible. If rooftop units are unavoidable, mechanical roof "courtyards" should be considered to minimize visual impact.

Additional Design Considerations

Additional design considerations should encompass the following:

- Renovation/Rehabilitation
- Maintenance/Operations
- Temporary Buildings

Renovation/Rehabilitation

Renovations provide the opportunity to change materials which are no longer serviceable and add form enriching elements which would result in a building more consistent with the character of the installation.

- Use exterior materials and details that are compatible with those of adjacent buildings. Architectural character, form and style must be especially compatible.
- In the construction of additions to existing buildings, use materials and details that are similar in color, texture and order to those on the existing building.
- Avoid the infill of windows and doorways except where dictated by security concerns.

Maintenance & Operations

Maintenance requirements need to be considered during the planning and design process for all buildings.

- Design buildings to minimize life cycle cost, energy consumption and maintenance through the selection of proper materials and construction standards.
- Ensure that the facility orientation and wall sections do not encourage excessive passive heat gain.
- Wall assemblies shall be designed to minimize vapor infiltration and condensation. To this end, vapor barriers are required for the local climatic conditions.
- Use materials with integral colors to minimize repainting.

-

Temporary Buildings

These buildings are classified as temporary in the real property inventory, since they will be demolished as permanent replacements are constructed. These buildings require maintenance and renovation to provide protection from weathering and deterioration until demolition. In most cases, these buildings are utilized well beyond their design life. The following guidelines should govern removal of these structures:

- Demolish and remove temporary buildings as soon as permanent replacements are constructed.
- Undertake maintenance and renovation work which is consistent in scope and cost with the anticipated time period until demolition.

  0-5 Years: Continue scheduled maintenance as needed. This includes painting and minor repairs to roofs, doors and windows.

  5-15 Years: Schedule recladding, new windows and doors as needed. Use compatible materials and colors. Design building modifications to be consistent with the character of the building. Do not construct any building additions.

  15-25 Years: Treat temporary buildings with this life span as permanent buildings. For rehabilitation work, follow the guidelines for new construction and use appropriate material, details and color.

VISUAL PATTERNS

Elements make up patterns - for example, a particular type of fenestration on the exterior of a building is an element that if clearly defined and incorporated on a series of related buildings forms a pattern that is recognizable. If the pattern is an appropriate one and is well adapted across different buildings, it will be recognized as pleasing and contribute to the theme of the community as a whole.

Patterns patterns defined distinct and Identifying **define districts** - As emerge they start to districts which have individual characters. the districts and understanding the patterns that constitute it is key to enhancing the installation as a whole.

The object is to establish desirable patterns that act as guiding principles for future design. The patterns are what breathes the spirit into the district, building or space. Patterns exist on three levels; urban scale, the building scale, and built details.

Architectural Compatibility is mostly concerned with the patterns that the practice of architecture can influence; buildings and their details.

In the Tools chapter there are a preliminary set of patterns that are relevant to Air Force Installations and are aimed at enhancing the experience of living and working on one. This is by no means an exhaustive list, it is intended to be a point of departure for design development. For a more information on the method of studying patterns as a means to achieve design excellence, refer to "A Pattern Language" by Christopher Alexander.

VISUAL DISTRICTS

Identify visual districts within the installation. These districts are simply areas that currently have, or should have, a common visual theme. Visual districts can be any size and any configuration. Very often, visual districts correlate directly with land use areas, such as Industrial, Community or Administrative. Other factors can often define visual districts, such as geographic features, circulation patterns, proximity to other functions, site lines, landmark buildings, etc.

VISUAL CHARACTER

Establish architectural guidelines that specify a general design vocabulary for all buildings within the installation. The formulation of these guidelines should be derived from the following considerations as they relate to establishing a coherent theme, scale, form, and articulation among buildings within the installation. These over-reaching installation standards, while providing variation within each visual district, establish a common "visual thread" that ties all of the districts together.

Landscape/Landform Character

The natural site character of the installation in terms of its terrain and vegetation may lend itself to a particular character of development and architecture.

Urban/Rural Context

The general character of development within the installation, in terms of its intensity of land use, indicates a type and scale of development pattern and architecture that can range from dense and urban to sparse and rural. The guidelines should specify a desired character or transition in character among facilities within the installation.

Climate

The climate of an installation should heavily dictate an appropriate character of development and

architecture that is conducive to user comfort and energy conservation.

Prevailing Regional Architectural Character

A regional architectural character that has historically developed in response to the climate, natural setting and available building materials of the region can provide a useful model for establishing the overall architectural guidelines for the installation.

Prevailing Architectural Character of Installation

The installation's prevailing architectural character may serve as the practical basis for establishing the guidelines for a coherent architectural character within the installation.

Design Applications

- Establish a coherent overall architectural character within the installation that can apply both to new building design and the renovation of existing buildings.
- Design new buildings to promote a coherent architectural character by means of a compatible contemporary architectural design expression.
- Avoid trite cosmetic application of stylistic elements that allude to the architectural style of older installation buildings.
- Encourage variety that is compatible with the overall character of the installation; avoid promoting a rigidly homogeneous and monotonous architectural character.
- Avoid prefabricated or modular prototype building systems whose designs are out of context with the natural setting or architectural character of the installation; utilize only those building systems that can be adapted compatibly to the site and architectural character of the installation. Where procurement schedules or economics dictate the use of these building systems, select those of compatible design, scale, color and materials. Consider the use of plant material and screening walls to lessen any negative visual impact of these building systems.

INTERFACES

Achieving design excellence on Air Force installations means understanding the impact that architecture has on the overall visual quality of the installation and the interaction it has with several other design disciplines.

Environmental

In the process of implementing architectural compatibility initiatives, there is the opportunity to integrate environmentally responsible practices into the planning, design and construction process. True architectural compatibility embraces

sustainable practices as integral to the facility delivery process, ensuring the "best fit" of the built environment to the natural environment.

Planning

Planning on the urban scale provides the underlying structure for installation development. The architecture should individually and as a whole reinforce the unifying elements of the General Plan. Design excellence begins here; good architectural features can be lost if the master plan lacks a cohesive vision.
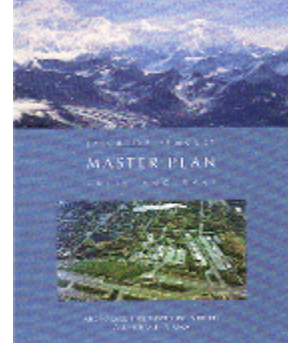
Site Development

Site development integrates outdoor elements with buildings to create a unified design. The architecture contributes to the site by establishing way-finding cues, defining outdoor spaces and communicating a language that places the building in its context on the installation. In addition to the architecture, however, there is the art of designing natural spaces and fostering cohabitation with the natural environment.

Interiors

Just as the exterior architecture is articulated, interior spaces involve design on a smaller, more personal scale using space, material, light, color, texture, and pattern. As the exterior architecture fits into the master plan for the installation, so must the buildings interior and exterior functions complement each other. This mandates understanding the experience of the architecture as a progression from outside to inside.

OBSTACLES

As you begin the process of developing an Architectural Compatibility Plan for your installation, it's important to acknowledge and understand obstacles that may need to be dealt with along the way.

Lack of Awareness

It is sometimes easy for design professionals to forget that everyone does not see the opportunities and potential for visual improvements on an installation. Simply making people aware of these issues can be vital to gaining support for your efforts.

Prevailing Attitudes

Often the attitude of "if it isn't broke, don't fix it" can be an obstacle. Base leadership, that is often forced to focus primarily on day-to-day operations, can benefit greatly from exposure to a long-range vision for the visual quality and character of the installation.

Existing Conditions

A prevalent issue on most installations is the sheer quantity of facilities that may not conform to architectural compatibility goals. It is important to be realistic about what initiatives can be implemented, how can the plan be phased and how can we turn selected existing conditions into visual assets to build on.

Funding Limitations

No obstacle is more prevalent than funding limitations in this age of military downsizing. Realizing this, it is essential that an Architectural Compatibility Plan recognize and exploit the areas where the greatest impact can be realized for the least amount of money.

OPPORTUNITIES

Opportunities for implementing architectural compatibility initiatives may present themselves in many forms. A change of leadership, new construction projects already programmed, scheduled operations & maintenance projects, and partnerships with the community are just a few examples.

Funding Programs

While most Civil Engineering staffs have an individual whose primary function is to program the funding for installation projects, you must have a basic understanding of how the process works. You must become familiar with the many and varied sources that are available to fund construction, maintenance, and repair projects. There is an appendix to this guide that briefly describes the primary sources of funding with which you should be familiar: Each of these programs offers opportunities to affect the architectural character of facilities to different degrees. The challenge is to align the goals of the Installation Architectural Compatibility Plan with the anticipated project funding.

Policy Initiatives

Identifying current AF trends and policies can be a very prudent strategy as a means to getting projects funded and realizing the purpose of your Installation ACP. For example, if the priority for funding in you command is Quality of Life projects that is where your plan should focus its initial effort at improving architectural compatibility. Some other examples of types of projects being supported are Force Protection, Environmental, and projects in support of Drawdown or Privatization. Working with your MAJCOM planners and programmers can give you insight into the trends in programming.

New Technology
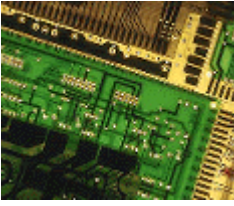
Some of the most difficult aspects of producing a major planning document for the installation can be the costs of gathering resources, producing the document and distributing it. With the advent of the Internet there are a multitude of opportunities that puts the power to create detailed planning documents in your hands. There are many resources available on the Internet, some of which are listed in the Tools section under Web Links. In addition to finding information on the web there is the opportunity to publish your final product on the Internet or your base Local Area Network (LAN). Talk to your base Communications folks for information on publishing paperless documents like this guide you are reading. This method decreases your expenses and makes the document very flexible for future changes. In the Process section of this guide there is a more detailed discussion of web publishing under the Document Development heading.

Methods of Execution

There are several avenues of execution the ACP for your installation. The scope can be very large scale and contracted to an architectural firm or if the installation can support it, the plan can be developed in-house. If the funds are available, the contract can be acquired through your local contracting office. The Air Force Center for Engineering and the Environment also retains sever al Indefinite Quantity contracts for Architect and Engineering Services. In any case, there is a sample Statement of Work in the Tools section under Appendices to help you to define your requirements.

Another resource that can provide architectural compatibility assistance is the AFCEE Assistance Teams (ATs) Program. ATs are ad hoc groups organized to address a variety of design and planning issues on installations. When a problem has been identified on an installation, the MAJCOM, in coordination with the Air Force Center for Engineering and the Environment (AFCEE), may assemble an AT to visit the installation and make recommendations on how to solve the problem. Team members typically consist of representatives from agencies across the Air Force, the Department of Defense (DOD), or others with expertise in the problem area. Typically, the ATs are funded to facilitate a specific requirement at an installation. ATs also have the advantage of being comprised of design professionals that are well versed in Civil Engineering processes.

Other Opportunities

Other functional agencies which may influence facility design, and with whom you should coordinate your plans, include operations, logistics, and communications. Seek other installation and command level boards or committees that could impact planning on your installation. Either volunteer to be member as a CE representative or be placed on the distribution list for meeting minutes. It is important that you develop a feedback system that will provide regular updates on potential projects.

THE PROCESS

Accomplishing a design plan involves steps that are common in many design problems. Here, we try to outline the specific actions needed to produce an Architectural Compatibility Plan.

PLANNING

To start the process of creating an Installation Architectural Compatibility Plan, take time to plan and organize your approach to the entire process with the endpoint in mind. You will seek to identify and motivate a team that may not realize just how important this work can be and how it can contribute to your installation's visual image and how it is perceived within your community.

Team & Stakeholders

	Design Team	Stakeholders
Highest Ranking Person with Concerns (HRPWC))	X	X
Major Command, BCE, Commanders, Etc.	X	X
Customers	Optional	X
Suppliers	Optional	X
End Users (Residents, Employees)	Optional	X
Indirect Beneficiaries (Visitors, Public, Community)	Optional	X
Design Professionals	X	
You -- The Champion	X	X

Motivation

- Get folks excited by pointing out the benefits of a good Architectural Compatibility Plan. Show them what's bothering you about your installation, talk about the possibilities, and show what can be done.
- Involve anyone that has a stake in the process. Make sure you get the interest and participation of key installation personnel. Keep people involved through periodic working sessions and informal meetings. Their sense of "ownership" of the plan as well as its content will dictate their level of support for the plan and determine its success. Familiarize the team with the subject. Customize and use the downloadable briefing for your team and stakeholders. (click here to download briefing)

Participation of key installation personnel is essential to the success of the Architectural Compatibility Plan. You will interview the personnel on the installation who are not only important in accomplishing the installation's mission, but who also will be the ones to influence the implementation of the Architectural Compatibility Plan. Keep them

involved through periodic working sessions and informal meetings. Their sense of "ownership" of the plan and its recommendations will dictate their level of support for the plan and determine its success.

Key personnel should be involved from the beginning. A kick-off meeting of all concerned installation personnel, including the Installation Commander, can be quite important to the success of this planning effort. Here, you can explain the scope of the effort and what purpose the end product will serve. You also should highlight the fact that this document will primarily be used by the Installation Commander to assist in making decisions regarding future development on the installation. Make every effort to get the Commander to attend the kick-off meeting to put emphasis on the importance of the Architectural Compatibility Plan to the installation.

You might invite your counterpart(s) from the local community(ies) to get involved with the development of your plan. It is important that you seek their input at some point in the process; however, exactly when to invite them will depend on the timing and sensitivity of the issues being discussed. You need to understand and consider their concerns, as much as they need to understand the mission of the installation and the impact community actions may have on the installation.

Another benefit of this initial meeting and future meetings and reviews is the exchange of information among the agencies represented. A mutual, comprehensive understanding of the installation's future directions and requirements will improve the planning efforts of all organizations.

PARAMETERS

Determine what the ground rules, constraints, latitude, and limitations are you are working within.

Mission

Identify the installation mission. The mission is the most important element affecting an installation's future development and visual image. It dictates the functional requirements and influences the socio-cultural character and physical appearance of the installation. You must become familiar with the mission and its effect on facility design.

Identify any installation-level, Major Command or Air Force tasking requiring the Architectural Compatibility Plan

Resources

Identify resources available to create the Plan.

- Funds for contract work (data collection, analysis, plan development)

- Manpower and facilities available for planning, (data collection, analysis, plan development if done in-house), plan implementation, and plan maintenance.

Goals

Get the team should establish overarching guidelines on Goals. The team may establish its own goals for your installation or they may already exist in the installation's mission statement, Architectural Compatibility Plan, contingency plans, Strategic Plan, or Architectural Compatibility Plan.

A goal is a statement of an ideal condition such as the Community Area facilities and spaces should be compatibly designed to reflect a modified Mediterranean motif of similar design elements.

Establish goals that address the following:

- Function. Address issues such as accessibility, sequential flow, energy conservation, volume, types of groups to be accommodated (such as shoppers or tourists), order of importance, priority, security, process flows, flow separation, territoriality, mixed flow, flexibility, environmental controls, phasing
- Form. Character, density, orientation, scale, community focus, mass, style, materials, fenestration, details, colors
- Economy. cost control, maintenance
- Time. Functional efficiencies, communications

Objectives

Objectives. Objectives may be established as increments or priorities toward achieving Architectural Compatibility on your installation. An example would be "each new facility will meet established Architectural Compatibility Plan guidelines."

Metrices

Measures of Success. Be certain to include objective ways to measure progress toward your goal such as "percent of progress on completion of standards for each district" or simply "how many facilities comply."

COLLECT DATA

Locate information that bears on Installation Architectural Compatibility. Collect information and determine its validity – separating fact from fantasy by identifying the interrelationships of information. Identify pertinent information by testing goals and concepts for design implications. Try to distinguish major concepts from minor details.

Careful data collection should help lead you to the essence of the issues and help you uncover the uniqueness of your situation.

Visual Scan

The goal here is to scan the installation's environment and operation, as well as a view of the opportunities for and constraints to development.

Identify design types by location, construction period, function, and design elements.

Identify Exterior Areas, Spaces, Corridors, Or Categories Buildings.

Judge existing building's architectural compatibility with respect to scale, style, and form.

Describe or rate the following:

- The degree of contrast or replication with the surrounding buildings
- scale or external site organization
- building footprint similar to others in the area
- the link with existing circulation patterns
- landscaping and site demarcation consistent with the area
- scale appropriate to the function of the building
- prominence in site location, scale, or contrast
- style or external surface composition
- color blend or contrast with adjacent structures
- materials shared with surrounding buildings
- ornament, detail, or relief used
- rhythm and proportion of the fenestration
- texture with surrounding buildings
- form or volumetric composition
- Vshapes or complexity of form similar
- articulation of the building from top to bottom
- roof line and any vertical projections consistent with other buildings on base or in the area?
- overall architectural style or theme across the base or in different use areas
- buildings on base or in particular use areas exhibit visual continuity or harmony
- building response to climate through orientation, overhangs, screening, shading devices, landscaping, etc
- active or passive solar design techniques employed
- design integration of mechanical and electrical equipment
- design of additions and alterations Rate interior spaces relationship with adjacent spaces
- visual impact of entries: are they obvious, inviting, connected to walkways and parking areas
- small components such as handrails, canopies, and trim
- window framing and details blend in with other structures

- historic structures

Sources of Information

Records & Documents. Identify, collect, review, and analyze applicable existing sources and data (if available)

- Capital Improvements Program
- Real Property Inventory
- Facility maintenance records
- Facility surveys
- Current project lists
- Design criteria (UFAS, Force Protection, Landscape criteria, Interior design criteria, design guides, etc.)
- Departmental and Command Design Guides
- Facilities Excellence Plan
- Architectural Compatibility Studies
- Local government restrictions, plans
- master plans
- development plans
- land use plans
- zoning maps and ordinances
- transportation plans
- Regional factors
- Circulation systems,Vehicular and Pedestrian; capacities, visual organization, site access, materials, shelters, courtyards, and amenities
- Signage plans
- Landscaping plans
- Utilities plans
- Interview stakeholders about mission changes,visual image problems, and future issues

Cultural Factors

History

Identify local historical events, ties to local historical events, base property origins, historic structures, archaeological sites, museums, historical displays, artifacts, culture, or history

Culture

Community traditions, celebrations, or cultural events

Design Concepts

General Considerations

- base and community architectural character or themes
- harmony of the base and local area
- apparent organization of the base or the area.
- major focal points, symbols, or landmarks, if any
- regional economic, governmental, medical, and education structure and patterns
- climate
- major local land features: soils, geology, topography
- native construction and landscape
- signage design, uniformity, styles, controls, placement
- landscaping conditions: space definition, noise buffer, wind barriers, visual relief, climate control, foundation planting
- street furniture: quality, design, color, placement, and materials consistent
- artwork, monuments, and static displays: part of the landscape, accessibility
- courtyards
- large utility installations: steam, power, water, and sewer plants, substations, chillers, cooling towers, compressors, transformers, overhead distribution
- color, screening, and landscaping for above ground equipment
- street lighting poles and fixtures considered as visual elements in addition to their utilitarian function

Regional Considerations

These can be, but are not limited to the following:

- Geography, Topography
- Regional economics, social factors, and demographics.
- Interface with regional transportation network, utilities.
- Local weather conditions.
- Density of development in the surrounding area.
- Character of the area (urban and rural).
- Adjacent off base land uses and activities.
- Visual aspects.

Base-wide Considerations

- architectural compatibility issues affected by certain land uses.
- buffer zones that may be appropriate to help enhance architectural compatibility and provide desired
- separation or protection in a particular land use composition. Architectural compatibility components may be used to either identify or emphasize closely related functions.
- explosive safety quantity distance zones, clearance requirements around arms ranges, force protection, spacing, electromagnetic clearances, and airfield clearance zones.

- potential impacts on any threatened or endangered species and use of prime or unique farmland, flood plains, and wetlands.

ANALYZE DATA

Organize data that bear on Installation Architectural Compatibility so that it can be evaluated in an organized fashion.

Sort Data

Sociopolitical

What is the realistic level of support to be expected? This can apply to the installation command structure or to civilian community political leadership.

Technical

What are the regulations and other technical criteria that govern development at the installation? historical and cultural: Are there sensitive sites on or around the installation that could impact exterior and interior treatment?

Economic

What are the most economical design Optionalions, in terms of life-cycle costs?

Physical

Identify physical or geographic factors that limit or provide opportunities for improving architectural compatibility?

Results of Visual Scan

- Design elements
- Visual patterns
- Visual districts

Evaluate

Evaluate the data in each category by identifying strengths, weaknesses, opportunities, and constraints.

Develop Alternatives

Develop alternatives that address weaknesses, opportunities, and constraints

Test Concepts

Test concepts against strengths, weaknesses, opportunities, and constraints

Conclusions

Draw conclusions on what would constitute Architectural Compatibility at your installation

DEVELOP PLAN

Process the information from your analysis of the strengths, weaknesses, opportunities, and threats to identify, develop, and recommend goals, objectives, success measures, standards, and districts.

Now that all the necessary data has been collected and you've gone through a careful analysis, it's time to actually develop the contents for the Architectural Compatibility Plan itself. Key topics of the plan are:

- Executive Summary
- Architectural Compatibility Primer
- Installation Standards
- Visual District Standards

Executive Summary

The executive summary provides a concise overview of the plan and contains the following:

Purpose
State the intended purpose(s) of the plan, summarize the overall goals, briefly describe the contents and provide concise background information as necessary.

Audience
Identify the primary and secondary audiences. Who are the people involved in the facility delivery process and the leaders that you are trying to reach?

Use
Describe how the plan will be used; during what processes and when. If multiple uses are intended or anticipated in the future, include that information here.

Implementation
Address how the standards contained in the plan are going to be implemented. Who will enforce their use? How will the plan be integrated into the current facility delivery

process? How will the plan be maintained? Will there be metrics established to measure the plan's effectiveness?

Organization

Provide an overview of how the contents of the guide are organized and formatted. This is a good place to inform the reader concerning the media available for distribution of the plan, such as printed copies, CD-ROM, diskette, Internet, LAN, etc.

Primer

This chapter is optional. It is simply a matter of inserting the entire primer chapter that is contained in this guide. It is recommended that this chapter be included as a tool to raise the awareness of the reader concerning the background and methodology for the architectural compatibility standards that follow.

Installation Standards

Overview & Installation Map

Provide a brief description of the installation, including the location, a brief history, information about the surrounding community, climate, etc. Also provide a map(s) as necessary to illustrate the installation's location, boundaries, and major external and internal features that will influence architectural compatibility.

Existing Conditions

This section describes, in general, the existing conditions of the installation from an architectural compatibility viewpoint. Documenting these observations is important in understanding what you have to start with. Organize your observations into the following categories:

Character

Describe the visual character of the installation. Is there a predominant theme, scale, form, or articulations that set the character? Are there historical or cultural influences evident? Are there distinct visual or geographic areas or is the installation density and character uniform?

Assets

Identify assets of the installation that should be recognized and exploited. These assets should be key elements that the Architectural Compatibility Plan is built around. Seek out the positive.

Liabilities

Identify liabilities that detract from the overall visual character of the installation. Identifying these areas will help focus the application of new standards where the greatest improvements can be realized.

Future Development

This section states the objectives for architectural compatibility and establishes the installation-wide design standards for implementation on future development to achieve those objectives.

Objectives

State the objectives for the Architectural Compatibility Plan. What do we plan to achieve? Where do we expect to improve?

Desired Patterns

Design Standards

The design standards listed here are intended for installation-wide application. They will serve as a common thread of architectural compatibility providing continuity across visual districts and will reinforce the desired character for the installation.

The documentation of these design standards may take the form of narrative descriptions, references to other specifications, identification of a specific product or system, drawings, photographs, etc.

For a homogenous or small installation, these design standards may be very comprehensive. For larger installations, or installations with a wide variety of distinctive visual districts, these standards may be more general in nature or may be limited to applications that are potentially common to all districts, such as sign systems, street furniture, fencing, etc. Refer to the Primer chapter in this guide to help categorize the installation-wide design standards into the following categories:

- Theme
- Scale
- Form
- Articulation
- Materials
- Color
- Fenestration
- Details

Visual District Standards

Overview & Map of all Districts

Provide a listing of the Visual Districts, an installation map showing their locations and relationship to each other, and a brief overview of how they were established.

Visual District A [insert actual name that will be used to identify this district]

This will be the title for the first of several visual district sections in your Architectural Compatibility Plan. Everything in this section should be concise and applicable to this specific visual district.

Overview & District Map

Provide a description of this visual district. What are the definitive features that led you to identify this area as a visual district? What are the boundaries? Provide a map that clearly shows what is contained in the visual district and where the boundaries are.

Existing Conditions

This section describes the existing conditions of the visual district from an architectural compatibility viewpoint. Documenting these observations is important in understanding what you have to start with. Organize your observations into the following categories:

- Character

  Describe the visual character of the district. Is there a predominant theme, scale, form, or articulations that set the character? Are there historical or cultural influences evident? What are there existing visual patterns that define the district?

- Assets

  Identify assets of the district that should be recognized and exploited. These assets should be the key elements that design standards for the district are built around. Seek out the positive.

- Liabilities

  Identify liabilities that detract from the overall visual character of the district. Identifying these areas will help focus the application of new standards where the greatest improvements can be realized.

Future Development

This section states the objectives for architectural compatibility and establishes the visual district design standards for implementation on future development to achieve those objectives.

- Objectives

State the objectives for achieving architectural compatibility within this district. What do we plan to achieve? Where do we expect to improve?

- Desired Patterns
- Design Standards

The design standards listed here are intended for application within this visual district. They will provide a tool for visual defining this district and will reinforce the desired visual character.

The documentation of these design standards may take the form of narrative descriptions, references to other specifications, identification of a specific product or system, drawings, photographs, etc.

It's important to coordinate these district standards with those that have been defined for the installation-wide application to ensure there are no conflicts or ambiguities. Refer to the Primer chapter in this guide to help categorize the visual district design standards into the following categories:

- Theme
- Scale
- Form
- Articulation
- Materials
- Color
- Fenestration
- Details

Finally identify the desired patterns that will achieve the intended district character. Refer to the discussion of visual patterns in the Primer (LINK TO PATTERNS IN PRIMER) for more information.

Create Document

At his stage, you can translate the plan into a document form that communicates your goals for Architectural Compatibility to those who would make facility changes on your installation. The options and process of creating the document is delineated.

The presentation of the Architectural Compatibility Plan is an important consideration. A plan may be well conceived, fully researched, and sound in its conclusions and recommendations. However, if it is poorly organized, too detailed, or lacks visual interest, it probably will be seldom used. In this section of the Guide, we will address the content, format, and physical appearance of the Architectural Compatibility Plan document.

Strategy

Develop a strategy for document creation. Identify the Plan's users and readers needs. Decide to develop the Guide by contract or in-house (data collection, analysis, plan development)

Provide guidance to

- make the job easier
- State official position
- Give purpose, & background on standards
- Give specific directions, checklists, materials, colors
- Cite guidance on the built environment
- Facilitate standards enforcement
- Provide a framework for improving quality of life and mission capability

Format

Printed

ACPs have been done successfully in a number of formats. Most have used a simple 8½" x 11" portrait (vertical) orientation. This size fits a common 3-ring binder, normal bookshelves, all printers and copy machines, and is easily handled. The word processing template that accompanies this guide is set up for 8½" x 11" paper in a portrait orientation. The least expensive printing option is simple photocopying. With appropriate software, text, graphics, and scanned black and white photographs can be incorporated into the document.

The cost per copy of reproducing selective color pages is significantly higher than black and white reproduction but is still reasonable for selective use in small quantities. If your document contains a lot of color photographs and graphics and you need a large number of copies, four-color offset printing is generally more cost effective. The cost of four-color offset printing is, in general, directly proportional to the number and size of pages in your document, he number of separations required for color photographs and camera ready graphics, and the number of mechanical separations required. A professionally printed and bound document does not lend itself to interim updates and can easily cost tens of thousands of dollars. You should carefully consider which process best suits your needs.

Commercially available desktop publishing software offers many capabilities for electronic pre-press work on your document. Much of the formatting, layout, composition, and other preparation for printing is greatly simplified. Also, many printing firms can create printing media directly from digital desktop publishing files and may offer discounts if used.

Electronic

Web Application

Style

The Architectural Compatibility Plan is intended to be a concise, readable document. It will be used by Commanders, functional managers, and other non-technical personnel at installation level and higher headquarters for information and decision-making. Therefore, you must work at keeping the plan concise and easily understood.

The following are a few suggestions:

Writing style

The writing style should be businesslike and matter-of-fact. Avoid overly formal language and passive voice. You're trying to present information objectively to the reader, so write as if you were talking directly with the person who will be using the document.

Sentence length

Short, consider the use of bullets instead of sentences. Try to achieve an average sentence length of between 12 and 20 words.

Acronyms and Jargon

Limit use of acronyms.

Multiple Authors

Edit other inputs to achieve a consistent writing style throughout the plan. As the plan is updated, ensure the style remains consistent.

Refer to some of the many excellent textbooks and guides to better writing to assist you in developing an acceptable style. Two such books are the "Tongue and Quill" and The American Psychological Association's "Publication Manual", (see the bibliography in the Tools section)

Appearance

The appearance of a document is dictated to a great degree by the variety of fonts used In the text. Many fonts are available in commonly used word processing or desktop publishing software. Use "styles", a feature of MS Wordâ. It is particularly useful and gives variety and a professional touch to the document. Refer to the Tutorial in the Tools section for instructions on how to use the styles in the MS Wordâ Template.

Layout

The Architectural Compatibility Plan is designed for use as a quick-reference document. Therefore, you should try to make it as "user-friendly" as possible. One of the best ways to do this is to use tabs (dividers) between the major sections of the document. Sub-tabs can also be used within the Component Plan Overview section to quickly identify and turn to any of the individual component plans.

Cover

The cover is an important part of your document. It must contain a title, the name and location of your installation, and any administrative restrictions. But, it also should be attractive, colorful if possible, and convey the message that what is contained inside is professional and high-quality work. In designing the cover, try to incorporate a graphic or photograph that is representative of the installation. If the Plan is being done under contract with an A-E, credits, logos, or acknowledgments are not appropriate on the cover.

Graphics & Photos

Graphics and photographs are effective visual references which ultimately lead to a better understanding of concepts and ideas

Graphics

Graphics should be used liberally in your Installation ACP. Graphics aid in reader comprehension by providing a visual reference for what is being discussed in the text. A variety of maps, sketches and diagrams can be helpful and add visual interest.

Maps should always contain a legend, a scale, and a north arrow that points to the top of the page. Maps or portions thereof that have been greatly reduced or enlarged to fit on a page generally have either no useable scale or an approximate scale. A bar scale generally retains its relative size after being reduced or enlarged; however, distortions in the scale can occur due to the reproduction.

Other types of graphics could include drawings, renderings, and computer generated three dimensional drawings.

Photographs

Photographs are an excellent way to illustrate existing conditions. Carefully selected, high quality photographs will enhance the understanding and visual appeal of your ACP. Whether in color or black and white, photographs should be in focus, well-composed and uncluttered, and should have sufficient contrast to distinguish the features of the subject being photographed. Use a variety of photographs throughout the plan so that the reader will have seen most of the key facilities and features of the installation after having read the document.

The most effective method to include photographs is to use a digital camera. This makes it inexpensive to produce photos, allows you to easily insert photos into electronic documents, and with an inexpensive software program you can alter, crop and touchup your photographs. Be aware, graphics and photographs can occupy a considerable amount of memory. A little time spent learning how to save graphics and photos efficiently to compact electronic files will make the document, whatever the format, considerably easier to use.

Publication

Printing and Binding

There are many options for printing and binding your final document. Each has its advantages and disadvantages with regard to appearance, durability, and ease of updating. The method you choose for binding the Architectural Compatibility Plan document also has some practical considerations. If you want to be able to update and replace pages easily, then a three-ring notebook binder is the answer. The type with clear plastic pockets on the cover and spine allow you to enhance the appearance of the plan with colorful and attractive inserts.

Less expensive, but also less convenient for page replacements, is plastic comb binding. It comes in a variety of colors and sizes, but requires a special machine to punch the document and insert the binding. Other options are perfect binding, in which the document is glued together at the spine (like books), and saddle stitching, commonly used for brochures and pamphlets. Neither of these options permit page removal and replacement, and, therefore, they are not recommended.

Distribution

Determine distribution method (identify the media and recipients)

Coordination/Approval

Review Process

Determine reviewers (Major Command, AF, base-level commanders, etc)

Decide how many review stages

35% Review This is a review of the rough draft of narrative, graphics, and proposed photographs. The emphasis is on ensuring the document is addresses proper areas in sufficient detail. Constraints and opportunities are identified and an outline of guidelines and standards provided.

65% Review The document is now close to its final form. Changes from 35% Review should be incorporated. Guidelines and standards are developed and presented. A

presentation to the Installation Commander would be appropriate at this point. In some cases, Major Command review and approval may be required before proceeding further. This will be the last review in which substantive changes will be made. Subsequent reviews will focus on editorial comments.

90% Review This review is the final check prior to printing. Comments from the Commander and Major Command have been incorporated.

Final review by incorporates the last comments and addresses printing and graphics issues.

Coordinate your strategy with your BCE

Propose a Maintenance Plan

Approval

Get approval from

- Facilities Board
- Highest Ranking Person with Concerns (HRPWC)
- Major Command

MAINTAIN PLAN

An effectual plan must be actualized to be effectual. These steps are listed to ensure official endorsement and that the plan is applied to facility projects as they are conceived. Implementation of the Architectural Compatibility Plan should occur following approval of both the Installation Commander and MAJCOM. The success of the implementation will depend largely on the Installation Commander's continued involvement and support. Although it is the Installation Commander's plan, you are responsible for playing an advisory role. Stay abreast of events on and off the installation that potentially impact the Architectural Compatibility Plan and advise the Commander as appropriate. Insure there is Commander support for your efforts Education is key to gaining sustaining Commander support. Brief new Commanders and continually update the Commander and the Facilities Board on the status of the plan and ensure that they concur with proposed changes. Major deviations from the plan should be coordinated with your Major Command. Make certain that new projects are designed using criteria established in the Plan. This can be done through project reviews, distribution of the Plan to project designers, and briefings at Pre-Definition Conferences. Educate in-house and contract designers, maintainers, and facility managers at every opportunity to insure consistency. Report progress toward goals (use metrics)

FEEDBACK

Collect information on existing conditions, development trends, the local community, architectural trends, technologies, materials, etc for items that may affect the plan.

For activities on the installation, the Facilities Board should be your primary source of information on proposed changes. You should review each proposed change with reference to its possible impact on the existing Architectural Compatibility Plan.

Track designs, solicit feedback from designers, and monitor facility changes as the occur to check for compliance with the Plan. For off-installation activities, maintain close contact with local design review agencies.

IMPLEMENTATION

As the installation evolves, refinements to the plan can be expected. Keep the Architectural Compatibility in front of decision-makers because it's important and solicit their ideas for improvements to the plan. Continue to process and market changes to the plan. The currency and accuracy of the Architectural Compatibility Plan is essential to its usefulness and success. Decision makers on the installation as well as at higher headquarters must have confidence that the plan they are reviewing reflects actual conditions on the installation. An out-of-date plan which leads, for example, to a poor facility siting decision that results in added costs and construction delays will undermine the overall confidence in that plan.

The Installation Commander is responsible for ensuring the installation has a Architectural Compatibility Plan. It is your responsibility to maintain it and keep it current and accurate. You must stay abreast of changing conditions on and off the installation and ensure that these changes are reflected in the Architectural Compatibility Plan.

Identify review procedures issued by your major command and/or installation. At a minimum, you should review the plan in conjunction with each meeting of the Facilities Board. A complete review of the plan should be accomplished annually and it should be updated as necessary.

The extent of updates annually may range from page changes to a complete re-accomplishment of the document. A total update of the plan will require approval of the Facilities Board. You must forward all changes to your major command point of contact as well as to others who have copies of the Architectural Compatibility Plan.

Provide initial & annual updates to, and get input from, your team, the Facilities Board, and the Highest Ranking Person with Concerns (HRPWC). Initial & annual updates: A slide briefing on the final Architectural Compatibility Plan is a useful tool for you in presenting highlights to commanders (especially new ones!), community leaders, and other interested parties.

THE TOOLS

TEMPLATES

Installation Architectural Compatibility Guide Template

This template in MS Word has been prepared to assist in the creation of the an Installation ACP. You can download here and begin compose your plan immediately. Refer to Document Development in the Process section for tips and instructions on writing the plan.

See the Tutorial section for tips on building document in Word

Download ACP Template

Download Front Cover

Background Briefing

This PowerPoint briefing is provided to brief Air Force Installation Architectural Compatibility Program to Base Commanders and participants in the project design process.

Download Briefing Template

REFERENCES

Web Sites

AF Sites and Publications

Unified Facilities Criteria
AFI 32-7062 - Air Force Comprehensive Planning
Air Force Center for Engineering and the Environment - Design and Construction Directorate
The Air Force Sustainable Facilities Design Guide
Landscape Development Design Guide
Interior Design Publications
The Air Force Design Awards Program

Government Resources

EPA
National Historic Preservation Office
Uniform---Accessibility Standards

Professional Organizations

American Planning Association

American Institute of Architects

Publications

Alexander, C. *A Pattern Language.* New York: Oxford University Press. 1977.

Ching, F. *Architecture: Form, Space and Order.* New York: Van Nostrand Reinhold Co. 1979.

Nelessen, A. *Visions for a New American Dream.* Chicago: American Planning Association Press. 1994

Pena. *Problem Seeking.* Washington DC: AIA Press. 1987.

APPENDICES

Sample Architectural Compatibility Guide Statement of Work

Download Sample SOW